UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/893,301	06/27/2001	Mark W. Davis	INXT 1017-1	1991

22470 7590 11/26/2004		**EXAMINER**
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ART UNIT	PAPER NUMBER
2162	

DATE MAILED: 11/26/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/893,301	DAVIS ET AL.
	Examiner	Art Unit	
	Chongshan Chen	2162	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL.** 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date *6/27/01*.

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1.   Claims 1-10 are pending in this Office Action.

Information Disclosure Statement

2.   The information disclosure statement (IDS) submitted on 27 June 2001 is in compliance

with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being

considered by the examiner.

Claim Rejections - 35 USC § 101

3.   35 U.S.C. 101 reads as follows: ·

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or
any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and
requirements of this title.

Claims 1-10 are rejected under 35 U.S.C. 101 because the claimed invention is directed

to non-statutory subject matter.

MPEP 2106 IV. B.2. (b)

A claim that requires one or more acts to be performed defines a process. However, not

all processes are statutory under 35 U.S.C. 101. Schrader, 22 F.3d at 296, 30 USPQ2d at 1460.

To be statutory, a claimed computer-related process must either: (A) result in a physical

transformation outside the computer for which a practical application in the technological arts is

either disclosed in the specification or would have been known to a skilled artisan, or (B) be

limited to a practical application within the technological arts.

Claims 1-10, in view of the above cited MPEP section, are not statutory because they

merely recite a number of computing steps without producing any tangible result and/or being

limited to a practical application within the technological arts. The use of a computer has not

been indicated.

Claim Rejections - 35 USC § 102

4.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5.   Claims 1-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Castelli et al.

("Castelli", US 6,122,628).

As per claim 1, Castelli discloses a method of incrementally updating precision and recall

curves in a k nearest neighbor database, said database including original documents, categories,

category assignments for the original documents, and category scores for the original documents,

the method including:

retaining for the original documents a list of their m nearest neighbors and corresponding

similarity scores, wherein m>k (Castelli, col. 11, lines 54-66, "let k be the desired number of

nearest neighbors to a template in a database of N elements ... a user typically requests a number

of returned results greater than k. Let n be the number of returned results greater than k ...");

adding or deleting one or more original documents and their category assignments

(Castelli, col. 15, lines 11-19, "if the k-nearest neighbor set (1009) is not empty at the beginning

of step 1007, then the intra-cluster search logic, in step 1007 updates the k-nearest neighbor set

when an element is found whose mismatch index δ^2 is smaller than the largest of the indexes

currently associated with elements in the k-nearest neighbor set (1009). The k-nearest neighbor

set can be updated by removing the element with largest mismatch index δ^2 from the k-nearest

neighbor set (1009) and substituting the newly found element for it");

identifying the documents influenced by the adding or deleting (Castelli, col. 15, line 3 –

col. 16, line 67);

updating one or more category scores of the influenced documents (Castelli, col. 15, line

3 – col. 16, line 67); and

computing precision and recall curves for the categories having updated category scores

(Castelli, col. 11, line 65 – col. 12, line 67, precision = E(c)/n, recall = E(c)/k).

As per claim 2, Castelli discloses a method of incrementally updating precision and recall

curves in a k nearest neighbor database, said database including original documents, categories,

category assignments for the original documents, and category scores for the original documents,

the method including:

retaining for the original documents a list of their m nearest neighbors and corresponding

similarity scores, wherein m>k (Castelli, col. 11, lines 54-66);

adding or deleting one or more category assignments to one or more original documents

(Castelli, col. 15, line 3 – col. 16, line 67);

updating category scores of the documents influenced by the adding or deleting of one or

more category assignments, for at least the categories to which the category assignments were

added or deleted (Castelli, col. 15, line 3 – col. 16, line 67); and

computing precision and recall curves for the categories having updated category scores (Castelli, col. 11, line 65 – col. 12, line 67, precision = E(c)/n, recall = E(c)/k).

As per claim 3, Castelli discloses a method of incrementally adding category assignments to particular original documents in a k nearest neighbor database, said database including original documents, categories, category assignments for the original documents, and category scores for the original documents, the method including:

retaining for the original documents a first list of their k nearest neighbors and corresponding similarity scores (Castelli, col. 4, line 55 – col. 5, line 11, col. 13, line 66 – col. 14, line 19);

retaining for the original documents a second list of m-k additional nearest neighbors and corresponding similarity scores (Castelli, col. 11, lines 54-66);

adding one or more category assignments for one or more particular original documents (Castelli, col. 15, line 3 – col. 16, line 67);

computing category scores for the particular original documents and a predetermined number of nearest neighbors of the particular original documents, for those categories to which the category assignments are added, based on the retained similarity scores (Castelli, col. 15, line 3 – col. 16, line 67); and

computing precision and recall curves for the categories to which the category assignments are added (Castelli, col. 11, line 65 - col. 12, line 67, precision = E(c)/n, recall = E(c)/k).

As per claim 4, Castelli discloses a method of incrementally adding one or more documents to a k nearest neighbor database, said database including original documents,

categories, category assignments for the original documents,, and category scores for the original

documents, the method including:

retaining for the original documents a first list of their k nearest neighbors and

corresponding similarity scores (Castelli, col. 4, line 55 – col. 5, line 11, col. 13, line 66 – col.

14, line 19);

retaining for the original documents a second list of m-k additional nearest neighbors and

corresponding similarity scores (Castelli, col. 11, lines 54-66);

adding one or more documents; calculating similarity scores between the added

documents, and the added and original documents; modifying the retained first and second

nearest neighbor lists for a predetermined number of nearest neighbors of the added documents;

adding category assignments for the added documents; computing one or more category scores

for the added documents and the predetermined number of nearest neighbors of the added

documents, based on the retained and calculated similarity scores (Castelli, col. 15, line 3 – col.

16, line 67); and

computing precision and recall curves for the categories to which the category

assignments are added (Castelli, col. 11, line 65 - col. 12, line 67, precision = E(c)/n, recall =

E(c)/k).

As per claim 5, Castelli discloses a method of incrementally deleting category

assignments from particular documents in a k nearest neighbor database, said database include

original documents, category, category assignments for the original documents, and category

scores for the original documents, the method including:

retaining for the original documents a first list of their k nearest neighbors and corresponding similarity scores (Castelli, col. 4, line 55 – col. 5, line 11, col. 13, line 66 – col. 14, line 19);

retaining for the original documents a second list of m-k additional nearest neighbors and corresponding similarity scores (Castelli, col. 11, lines 54-66);

deleting or deleting one or more category assignments for one or more particular original documents; computing category scores for the particular original documents and a predetermined number of nearest neighbors of the particular original documents, for those categories to which the category assignments are deleted, based on the retained similarity scores (Castelli, col. 15, line 3 – col. 16, line 67); and

computing precision and recall curves for the categories to which the category assignments are deleted (Castelli, col. 11, line 65 - col. 12, line 67, precision = E(c)/n, recall = E(c)/k).

As per claim 6, Castelli discloses a method of incrementally deleting documents from a k nearest neighbor database, said database including original documents, categories, category assignments for the original documents, and category scores for the original documents, the method including:

retaining for the original documents a first list of their k nearest neighbors and corresponding similarity scores (Castelli, col. 4, line 55 – col. 5, line 11, col. 13, line 66 – col. 14, line 19);

retaining for the original documents a second list of m-k additional nearest neighbors and corresponding similarity scores (Castelli, col. 11, lines 54-66);

deleting one or more of the original documents and corresponding category assignments

from the database; deleting the deleted documents from the retained first and second nearest

neighbor lists for a predetermined number of nearest neighbors of the deleted documents;

computing one or more category scores for a predetermined number of nearest neighbors of the

deleted documents, based on the retained similarity scores (Castelli, col. 15, line 3 – col. 16, line

67); and

computing precision and recall curves for the categories in which the deleted documents

had category assignments (Castelli, col. 11, line 65 - col. 12, line 67, precision = E(c)/n, recall =

E(c)/k).

As per claim 7, Castelli discloses a method of incrementally adding category assignments

to particular original documents in a k nearest neighbor database, said database including

original documents, categories, category assignments for the original documents, and category

scores for the original documents, the method including:

retaining for the original documents a first list of their k nearest neighbors and

corresponding similarity scores (Castelli, col. 4, line 55 – col. 5, line 11, col. 13, line 66 – col.

14, line 19);

creating an influence list of original documents having a particular original document

among their k nearest neighbors (Castelli, col. 11, lines 54-66);

adding one or more category assignments for one or more particular original documents;

identifying influenced original documents from the influence list for the particular original

documents to which the category assignments are added; computing category scores of the

influenced original documents and of the particular original documents, for those categories to

which the category assignments are added, based on the retained similarity scores (Castelli, col. 15, line 3 – col. 16, line 67); and

computing precision and recall curves for the categories to which the category assignments are added (Castelli, col. 11, line 65 - col. 12, line 67, precision = E(c)/n, recall = E(c)/k).

As per claim 8, Castelli discloses a method of incrementally adding one or more documents to a k nearest neighbor database, said database including original documents, categories, category assignments for the original documents, and category scores for the original documents, the method including:

retaining for the original documents a first list of their k nearest neighbors and corresponding similarity scores (Castelli, col. 4, line 55 - col. 5, line 11, col. 13, line 66 - col. 14, line 19);

creating an influence list of those original documents having certain original documents among their k nearest neighbors (Castelli, col. 11, lines 54-66);

adding one or more documents to the database; calculating similarity scores between the added documents, and the added and original documents; updating the retained first list of k nearest neighbors to include the added documents; updating the influence list to include the added documents; adding category assignments for the added documents; computing one or more category scores of the added and original documents influenced by the category assignments, based on the retained and calculated similarity scores (Castelli, col. 15, line 3 - col. 16, line 67); and

computing precision and recall curves for the categories to which the category

assignments are added (Castelli, col. 11, line 65 - col. 12, line 67, precision = E(c)/n, recall =

E(c)/k).

As per claim 9, Castelli discloses a method of incrementally deleting category

assignments from particular documents in a k nearest neighbor database, said database including

original documents, categories, category assignments for the original documents, and category

scores for the original documents, the method including:

retaining for the original documents a first list of their k nearest neighbors and

corresponding similarity scores (Castelli, col. 4, line 55 - col. 5, line 11, col. 13, line 66 - col. 14,

line 19);

creating an influence list of those original documents having certain original documents

among their k nearest neighbors (Castelli, col. 11, lines 54-66);

deleting one or more category assignments for one or more particular original documents;

identifying influenced original documents from the influence list for the particular original

documents from which the category assignments are deleted; computing category scores of the

influenced original documents and of the particular original documents for those categories from

which the category assignments are deleted, based on the retained similarity scores (Castelli, col.

15, line 3 - col. 16, line 67); and

computing precision and recall curves for the categories from which the category

assignments are deleted (Castelli, col. 11, line 65 - col. 12, line 67, precision = E(c)/n, recall =

E(c)/k).

As per claim 10, Castelli discloses a method of incrementally deleting one or more

documents to a k nearest neighbor database, said database including original documents,

categories, category assignments for the original documents, and category scores for the original

documents, the method including:

retaining for the original documents a first list of their k nearest neighbors and

corresponding similarity scores (Castelli, col. 4, line 55 - col. 5, line 11, col. 13, line 66 - col. 14,

line 19);

retaining for the original documents a second list of m-k additional nearest neighbors and

corresponding similarity scores (Castelli, col. 11, lines 54-66);

creating an influence list of those original documents having certain original documents

among their k nearest neighbors (Castelli, col. 4, line 55 - col. 5, line 11, col. 11, lines 54-66, col.

13, line 66 - col. 14, line 19);

deleting one or more documents from the database and corresponding category

assignments; updating the retained first and second lists of m nearest neighbors to delete the

deleted documents; updating the influence list to delete the deleted documents; computing one or

more category scores of the original documents influenced by the deleted documents, based on

the retained similarity scores (Castelli, col. 15, line 3 - col. 16, line 67); and

computing precision and recall curves for the categories in which the deleted documents

had category assignments (Castelli, col. 11, line 65 - col. 12, line 67, precision = E(c)/n, recall =
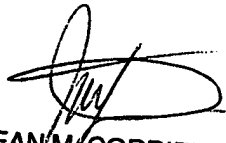
E(c)/k).

Contact Information

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Chongshan Chen whose telephone number is (571)272-4031.

The examiner can normally be reached on Monday - Friday (8:00 am - 4:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, John E Breene can be reached on (571)272-4107. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

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applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chongshan Chen
November 20, 2004

JEAN M. CORRIELUS
PRIMARY EXAMINER